

## Mint of the United States at Philadelphia, Pa.,

ASSAY DEPARTMENT,

December 19<sup>th</sup>, 1887.

Sir

I have assayed the fragments of brittle 5c nickels from the Assistant Treasurer at San Francisco, received through the office of the Director of the Mint.

The assays are as follows. —

(No 1) 23.7 percent Nickel (No 2) 23.9 percent Nickel.

Though not fully up to standard, they are within the limits allowed by law.

I am pretty well satisfied that the trouble arises from the metal not being properly annealed.

By way of experiment, I took a piece of the brittle nickel, and carefully annealed it. The result was that the proper ductility or toughness was

## Mint of the United States at Philadelphia, Pa.,

## ASSAY DEPARTMENT,

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almost restored, as you may see by the enclosed sample.

It is our practice to assay sample from every lot of blanks as soon as they are received, we have never found any outside of the limits, <sup>of fineness</sup> allowed by law; and in regard to the ductility of the pieces, they were without any exception perfectly ductile.

Very respectfully  
Jacob B. Eckfelder  
Assayer

Hon Daniel M. Fox  
Superintendent

Mint of the United States at Philadelphia, Pa.,

ASSAY DEPARTMENT,

Decem 19<sup>th</sup>, 1887.

Jacob Eckfeldt.  
Assayer.

Has assayed fragments  
of brittle 65% Nickel from  
Dr. J. W. S. San Francisco.

No. 1. 23.7

" 2. 23.9

Is satisfied that the metal  
is not properly annealed. &c.

Recd. Dec 20. 1887

No. of Enclosures,

[Abstract:] Has assayed fragments of brittle 5 cent nickel...

Mint of the United States at Philadelphia, Pa.,  
Assay Department,  
December 19, 1887

Sir

I have assayed the fragments of brittle 5 cent nickels from the Assistant Treasurer at San Francisco, received through the office of the Director of the Mint.

The assays are as follows –

(No. 1) 23.7 per cent Nickel (No. 2) 23.9 per cent Nickel though not fully up to standard, they are within the limits allowed by law. I am pretty well satisfied that the trouble arises from the metal, not being properly annealed.

By way of experiment, I took a piece of the brittle nickel, and carefully annealed it. The result was that the proper ductility or toughness was almost restored as you may see by the enclosed sample.

It is our practice to assay sample from every lot of blanks as soon as they are received, we have never found any outside of the limits of fineness allowed by law; and in regard to the ductility of the pieces, they were without any exception perfectly ductile.

Very respectfully,  
Jacob B. Eckfeldt  
Assayer

Hon. Daniel M. Fox  
Superintendent.